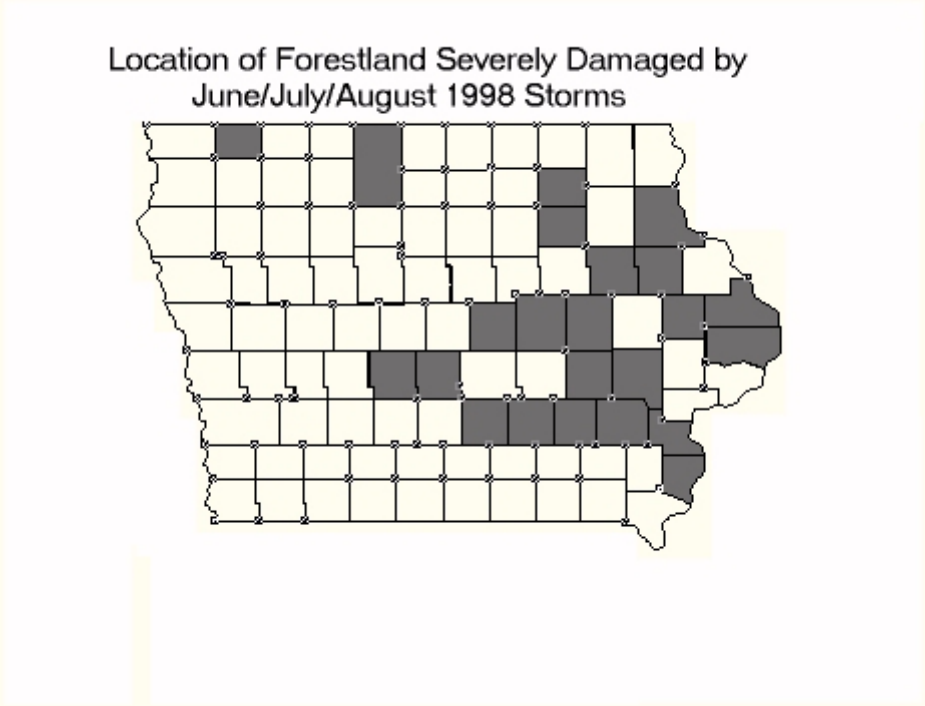
Forests and Prairies Division1998 Iowa Forest Health Report

Over 5 percent of Iowa, 2.1 million acres, is covered with trees. Our forests have significant impacts on our agricultural based economy, protection of our drinking water, critical wildlife habitat and the overall enjoyment of the place that we call Iowa. Iowa wood industries employ over 7,000 workers in the production of lumber and high quality wood products. Trees in our small and large communities, our "urban forests", increase property values and conserve cooling and heating energy. Our forests are vital to our state's future. Because our trees are so valuable to the citizens of Iowa, the Forests and Prairies Division of the Iowa Department of Natural Resources (DNR) began monitoring forest and tree health conditions in the late 1970's. Today, this monitoring effort continues to be used to track overall forest and tree health, the status of natural and exotic insect and disease problems and to provide up-to-date information that can be used by private and public managers to aid them in the sustained management of Iowa's forest resources.

Monitoring Efforts for 1998

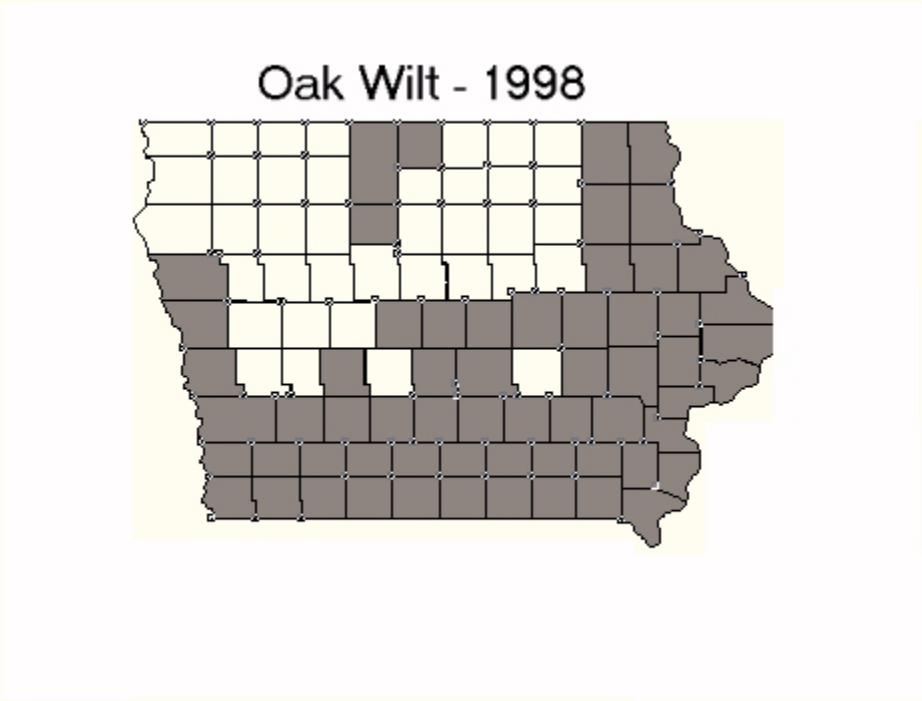
During the Summer of 1998, estimates of serious forest and tree insects, diseases, and weather impacts were determined by aerial surveys of over 141,832 acres of representative forested areas across the state. Visual surveys from DNR Foresters, municipal foresters, and trained volunteers were also evaluated, as well as aerial survey assistance from the USFS, in determining forest and tree health conditions and locations of pest problems.

Potentially the greatest threat to our forests is the Gypsy Moth. This insect is not yet established in the state, but it constitutes a potentially serious threat. During the summer 6,000 pheromone-containing traps were distributed by personnel from the office of the State Entomologist and trained volunteers, to determine areas of infestation and sites in need of control efforts. 1998 Weather A relatively mild winter and wet spring in 1998 lead to leaf flush state wide by the 1st week in May. Signs of tattered leaves were reported across the Northern portions of the state on hackberry and bur oak. Heavy rains caused extensive flooding in the Nishnabotna River valley. A large portion of Iowa was battered by a series of severe storms from June 13th until August 24th. These storms involved 78 tornadoes, 100+ mph straight winds, large hail and heavy rain. Trees within 54 cities and on 20,694 acres of forestland were twisted, broken or blown completely over. A total of 34 counties were declared federal disaster areas and were eligible for public assistance. There were also 81 counties that became eligible for federal individual assistance due to these storms. A total of 65 million board feet of private timber worth approximately $20 million was damaged.



Oak Wilt

Oak Wilt, caused by the fungus, *Ceratocystis fagacearum*, invades the water-conducting tissues of oak trees and causes the foliage to wilt and die. This continues to be the most serious tree disease in Iowa impacting 2,380 new acres. Although all species of oaks are susceptible, the red oak group, especially black oak and red oak often die within weeks of infection. The White Oak family continues to show signs of decline due to the droughts of the late 80's and saturated soils of the early 90's. Secondary diseases such as Armillaria Root Disease (*Armillaria spp.*) and secondary insects like the Two-lined chestnut borer (*Agrilus bilineatus*) impacted over 170 acres statewide.



Dutch Elm Disease

Dutch elm disease (DED), caused by the fungus *Ophiostoma ulmi/novo-ulmi*, has reestablished itself across Iowa impacting 727 acres of American elm and red elm. Lack of sanitation and removal of infected trees has contributed to the increase by providing breeding sites for fungus carrying bark beetles. Ash Yellows Ash yellows, a recently discovered disease that causes reduces growth and decline of ash, was thought to have impacted green and white ash in the eastern and central portions of Iowa. Continued research by Iowa State University on the cause of wide spread ash decline of native woodland white ash and urban green ash has confirmed that it is not ash yellows, rather a new organism. Further study is ongoing, but recommendations on planting ash should include avoiding pure stands, diversify as much as possible and planting trees in appropriate soil types

Browse Damage

Browse damage by white-tailed deer impacted 1,150 acres of newly established forest and Christmas tree plantations and natural regeneration in 93 counties according to DNR foresters.

Community Tree Conditions

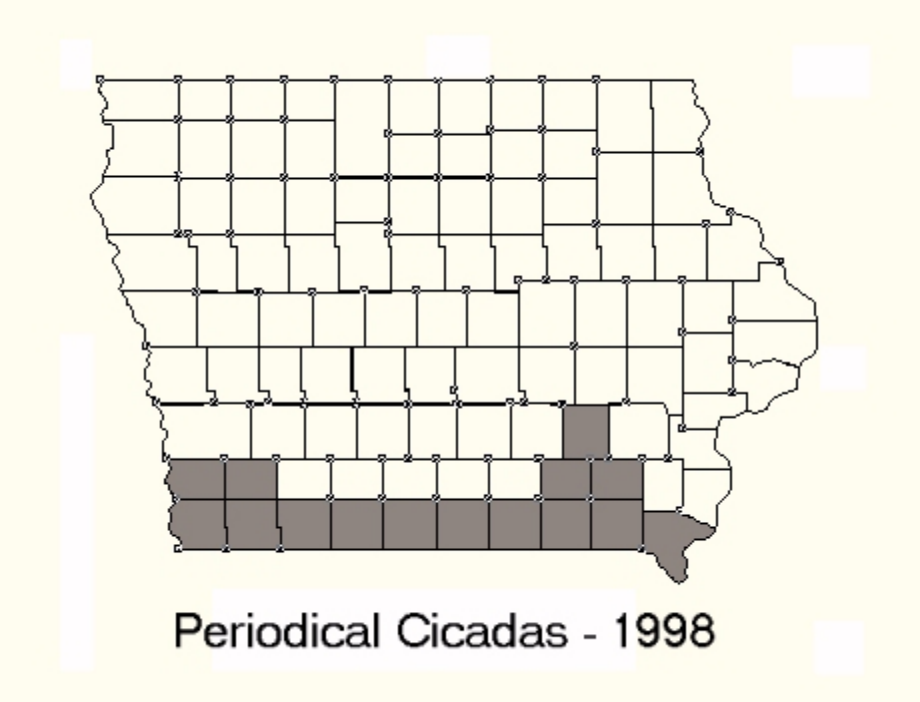
Iowa's communities are dominated by three major tree species: green ash, silver maple and Norway maple. These trees are subject to tremendous environmental stresses caused by severely compacted soils, weather extremes and human abuse. These stresses often provide opportunities for secondary insects and diseases to become established resulting

in the death of branches and eventual death of the tree. The impact of the floods of 1993 are still being felt by trees growing in poorly drained clay soils due to past saturated conditions.

A recent discovery of Pecan Case Bearer was confirmed in 5 extreme NE Iowa counties on black walnut. Visual observations found approximately 75 acres of 3 to 7 year old walnut plantings showing symptoms of severe stem deformation.

The 17 year locusts or cicadas made another appearance in 1998, this time in areas around Shenandoah/Sidney and Ottumwa/Centerville. These non-feeding adults, although noisy, caused only small limb damage to approximately 1,000 acres due to their egg laying activities.

Anthracnose *Gnomonia* and *Gloeosporium* was heavy on hard and soft maples across the state during spring due to wet and humid conditions. This foliage disease of leaf blights and spots may appear to be serious, but does not seriously harm established trees. There were also a small number of outbreaks of the yellow necked caterpillar impacting ornamental oaks.



Gypsy Moth in Iowa

The Gypsy Moth (Lymantria dispar) is a potentially serious insect defoliator of Iowa's native deciduous trees and forests. Since 1991, the State Entomologist has been trapping and eradicating Gypsy moths associated with accidental introductions. Several eradication projects were conducted by the State Entomologist of the Iowa Department of Agriculture and Land Stewardship (IDALS) in cooperation with USDA APHIS in Cedar

Rapids and the Des Moines metro areas during May 1998. Infested nursery stock was unknowingly received from Ohio by several private garden centers and a new Cedar Rapids resident moved from Detroit bringing moth pupa cases with his picnic table. Detection surveys in 1997 located these sites and successful treatments eliminated Gypsy moths from these areas.

During 1998, IDALS coordinated Gypsy moth survey trapping involving over 6,600 pheromone traps. This yielded 372 male moths, an increase of over 200% from 1997. Gypsy moth populations are building in neighboring states to the east in Illinois and Wisconsin. NE Iowa counties, including Yellow River State Forest, border these states and showed the majority of increased moth catches. No immediate dangers exist, but it is critical to remain vigilant to prevent serious damage to the forest resources.